

WHAT IS CLAIMED IS:

Fig. 17  
1. An image processing method which inputs a color image signal and corrects the color image signal according to an observation condition, comprising the steps of:

judging whether or not the input color image signal represents achromatic color; and  
controlling the correction according to the judged result in said judging step.

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2. A method according to Claim 1, wherein the color image signal is the <sup>before or after correction</sup> color image signal which does not depend on a device and accords to the input-side observation condition.

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3. A method according to Claim 1, wherein the color image signal is represented by an RGB color space according to a standard white point of input-side observation light.

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4. A method according to Claim 1, wherein, when the color image signal represents the achromatic color, the color image signal generated by the correction is an achromatic color signal under a standard white point of output-side observation light.

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5. A method according to Claim 1, further

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comprising the step of converting a device-dependent color image signal into a device-independent color image signal on the basis of an input profile,

5 wherein it is set whether or not the controlling of the correction according to the judged result is to be performed, on the basis of information in the input profile.

10 6. A method according to Claim 1, wherein it is set based on a user's manual instruction whether or not the controlling of the correction according to the judged result is to be performed.

15 7. A method according to Claim 1, wherein the corrected color image signal is converted into a color image signal depending on an output device on the basis of an output profile.

20 8. An image processing apparatus comprising:  
input means for inputting a color image signal;  
correction means for correcting the color image signal according to an observation condition;  
judgment means for judging whether or not the input color image signal represents achromatic color;  
25 and  
control means for controlling the correction according to the judged result by said judgment means.

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9. A recording medium in which a computer-readable program has been recorded, said program executing an image processing method comprising the steps of:

- 5           inputting a color image signal;  
            correcting the color image signal according to an  
            observation condition;  
            judging whether or not the input color image  
            signal represents achromatic color; and  
10          controlling the correction according to the judged  
            result in said judging step.

10. An image processing method which performs a correction process to a color signal according to an observation condition, said method comprising the steps of:

- 15           obtaining a conversion condition for converting  
            the color signal into a color space not depending on a  
            color device, on the basis of a standard white point of  
20          the color signal;  
            judging whether or not the color signal converted  
            under the conversion condition represents achromatic  
            color; and  
            controlling the correction process according to  
25          the observation condition, in accordance with the  
            judged result in said judging step.

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11. A method according to Claim 10, wherein the color space not depending on the color device is defined by red, green and blue three color components.

5           12. A method according to Claim 10, wherein the correction process according to the observation condition is a correction process which uses a color appearance model and performs non-linear correction.

10           13. A method according to Claim 10, wherein, when it is judged that the color signal represents the achromatic color, a process to correct the color signal subjected to the correction process to represent the achromatic color.

15           14. A recording medium in which a computer-readable program has been recorded, said program executing an image processing method of performing a correction process to a color signal according to an observation condition, said method comprising the steps of:

20           obtaining a conversion condition for converting the color signal into a color space not depending on a color device, on the basis of a standard white point of the color signal;

25           judging whether or not the color signal converted under the conversion condition represents achromatic

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color; and

controlling the correction process according to the observation condition, in accordance with the judged result in said judging step.

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15. An image processing method which includes a first correction process to perform non-linear correction according to an observation condition, a second correction process to perform linear correction according to the observation condition, and a conversion process to perform, when a color signal representing achromatic color is input, conversion such that an output signal representing achromatic color is output, wherein

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when it is instructed to perform said second correction process, it is controlled not to perform said conversion process.

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